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FILE 'HOME' ENTERED AT 14:12:19 ON 28 SEP 2005

=> Index chemistry Dissabs
FILE 'ENCOMPLIT2' ACCESS NOT AUTHORIZED
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

INDEX 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS,
       BIOCOMMERCE, BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CEN, CERAB,
       CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT,
       FEDRIP, GENBANK, INSPEC, INSPHYS, INVESTEXT, ...'
ENTERED AT 14:12:37 ON 28 SEP 2005

47 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view
search error messages that display as 0* with SET DETAIL OFF.

=> s (apo?protein or apo?hemoglobin or apo?hemeoxygenase or apo?catalase or apo?cytochrome or
apoferritin ) (P) (metal?  (S) (rhodium  or ruthenium or palladium)) and phosphino?
          0*  FILE AGRICOLA

=> s (apoprotein or apohemoglobin or apohemeoxygenase or apocatalase or apocytochrome or
apoferritin ) (P) (metal?  (S) (rhodium  or ruthenium or palladium)) and phosphino?
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          0*  FILE APOLLIT
          0*  FILE AQUALINE
          0*  FILE BABS
          0*  FILE BIOCOMMERCE
          0*  FILE BIOTECHNO
          0*  FILE CAOLD
          1   FILE CAPLUS
          0*  FILE CBNB
          0*  FILE CEABA-VTB
  14 FILES SEARCHED...
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          0*  FILE CORROSION
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          0*  FILE FEDRIP
          0*  FILE INSPEC
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          0*  FILE KOSMET
          0*  FILE METADEX
          0*  FILE NTIS
          0*  FILE PASCAL
  37 FILES SEARCHED...
          0*  FILE RAPRA
          0*  FILE WATER
          0*  FILE WELDASEARCH
          0*  FILE WSCA

   1 FILES HAVE ONE OR MORE ANSWERS,   47 FILES SEARCHED IN STNINDEX

L1   QUE (APOPROTEIN OR APOHEMOGLOBIN OR APOHEMEOXYGENASE OR APOCATALASE OR APO
       CYTOCHROME OR APOFERRITIN ) (P) (METAL? (S) (RHODIUM OR RUTHENIUM OR P
       ALLADIUM)) AND PHOSPHINO?

=>
=> d rank
F1          1   CAPLUS


=> s (apo?protein or apo?hemoglobin or apo?hemeoxygenase or apo?catalase or apo?cytochrome or
apoferritin ) and (metal?  (S) (rhodium  or ruthenium or palladium)) and phosphino?
          0*  FILE AGRICOLA
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=> s (apoprotein or apohemoglobin or apohemeoxygenase or apocatalase or apocytochrome or
apoferritin ) and  (metal?  (S) (rhodium  or ruthenium or palladium)) and phosphino?
   8 FILES SEARCHED...
         1   FILE CAPLUS
  18 FILES SEARCHED...
         0*  FILE FEDRIP
  32 FILES SEARCHED...
  39 FILES SEARCHED...
         0*  FILE TULSA2
  43 FILES SEARCHED...

   1 FILES HAVE ONE OR MORE ANSWERS,   47 FILES SEARCHED IN STNINDEX

L2   QUE (APOPROTEIN OR APOHEMOGLOBIN OR APOHEMEOXYGENASE OR APOCATALASE OR APO
        CYTOCHROME OR APOFERRITIN ) AND (METAL? (S) (RHODIUM OR RUTHENIUM OR P
        ALLADIUM)) AND PHOSPHINO?

=> d rank
F1           1   CAPLUS


=> s l1
         0*  FILE ALUMINIUM
         0*  FILE APOLLIT
         0*  FILE AQUALINE
         0*  FILE BABS
         0*  FILE BIOCOMMERCE
         0*  FILE BIOTECHNO
         0*  FILE CAOLD
         1   FILE CAPLUS
         0*  FILE CBNB
         0*  FILE CEABA-VTB
  14 FILES SEARCHED...
         0*  FILE CIN
         0*  FILE COMPENDEX
         0*  FILE COPPERLIT
         0*  FILE CORROSION
         0*  FILE ENCOMPLIT
         0*  FILE FEDRIP
         0*  FILE INSPEC
         0*  FILE INSPHYS
  27 FILES SEARCHED...
         0*  FILE KOSMET
         0*  FILE METADEX
         0*  FILE NTIS
         0*  FILE PASCAL
  37 FILES SEARCHED...
         0*  FILE RAPRA
         0*  FILE TULSA2
         0*  FILE WATER
         0*  FILE WELDASEARCH
         0*  FILE WSCA

   1 FILES HAVE ONE OR MORE ANSWERS,   47 FILES SEARCHED IN STNINDEX

L3   QUE L1

=> D l3 ibib abs
DISPLAY L# IS NOT VALID IN STNINDEX
Answer set was created in a file.  Enter DISPLAY HISTORY to see where
the answer set was created.  Use the File command to change to that
file, then display the answer.

=> s L2
         1   FILE CAPLUS
  14 FILES SEARCHED...
         0*  FILE FEDRIP
  26 FILES SEARCHED...
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37 FILES SEARCHED...
0* FILE TULSA2

1 FILES HAVE ONE OR MORE ANSWERS, 47 FILES SEARCHED IN STNINDEX

L4 QUE L2

=> FIL F1
COST IN U.S. DOLLARS SINCE FILE ENTRY 46.02 TOTAL SESSION 46.23

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 14:59:19 ON 28 SEP 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 28 Sep 2005 VOL 143 ISS 14
FILE LAST UPDATED: 27 Sep 2005 (20050927/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> S L2
```
          6452 APOPROTEIN
          2396 APOPROTEINS
          7766 APOPROTEIN
                 (APOPROTEIN OR APOPROTEINS)
            75 APOHEMOGLOBIN
             4 APOHEMOGLOBINS
            78 APOHEMOGLOBIN
                 (APOHEMOGLOBIN OR APOHEMOGLOBINS)
            98 APOHB
            27 APOHBS
           106 APOHB
                 (APOHB OR APOHBS)
           151 APOHEMOGLOBIN
                 (APOHEMOGLOBIN OR APOHB)
             0 APOHEMEOXYGENASE
            19 APOCATALASE
           723 APOCYTOCHROME
            48 APOCYTOCHROMES
           746 APOCYTOCHROME
                 (APOCYTOCHROME OR APOCYTOCHROMES)
           763 APOFERRITIN
           235 APOFERRITINS
           839 APOFERRITIN
                 (APOFERRITIN OR APOFERRITINS)
       2328137 METAL?
         66242 RHODIUM
            31 RHODIUMS
         66243 RHODIUM
                 (RHODIUM OR RHODIUMS)
         86170 RUTHENIUM
            20 RUTHENIUMS
         86170 RUTHENIUM
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                (RUTHENIUM OR RUTHENIUMS)
        151508 PALLADIUM
            37 PALLADIUMS
        151511 PALLADIUM
                (PALLADIUM OR PALLADIUMS)
         30055 METAL? (S) (RHODIUM OR RUTHENIUM OR PALLADIUM)
         12189 PHOSPHINO?
L5           1 (APOPROTEIN OR APOHEMOGLOBIN OR APOHEMEOXYGENASE OR APOCATALASE
               OR APOCYTOCHROME OR APOFERRITIN ) AND (METAL? (S) (RHODIUM OR
               RUTHENIUM OR PALLADIUM)) AND PHOSPHINO?

=> d l5 ibib abs

L5   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2005:185451  CAPLUS
DOCUMENT NUMBER:          142:276006
TITLE:                    Preparation of a metal complex-protein composite for
                          the use as a hydrogenation catalyst of an olefin
INVENTOR(S):              Watanabe, Yoshihito; Ueno, Takafumi; Abe, Satoshi
PATENT ASSIGNEE(S):       Nagoya Industrial Science Research Institute, Japan
SOURCE:                   U.S. Pat. Appl. Publ., 7 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     US 2005049405         A1    20050303    US 2004-790060           20040302
     JP 2005075799         A2    20050324    JP 2003-310085           20030902
PRIORITY APPLN. INFO.:                       JP 2003-310085       A   20030902
OTHER SOURCE(S):          MARPAT 142:276006
AB   The metal complex-protein composite of the present invention includes a
     protein having a cavity and a metal complex and has a specific structure
     that the metal complex is received in the cavity of the protein.  Here the
     metal complex is prepared by complexation of a metal ion,
     which is selected among the group consisting of rhodium,
     ruthenium, and palladium, with a ligand.  The metal
     complex-protein composite of the invention functions as a hydrogenation
     catalyst of an olefin in water.  The metal complex-protein composite is
     thus effectively applied to hydrogenation of water-soluble substrates and has
     environmental advantages over organic solvents.  Preparation of rhodium
     complexes-apomyoglobin composites and their use as hydrogenation catalysts
     of olefins is disclosed.


=> s (apoprotein or apohemoglobin or apohemeoxygenase or apocatalase or apocytochrome or
apoferritin ) (P)   (rhodium  or ruthenium or palladium)
          6452 APOPROTEIN
          2396 APOPROTEINS
          7766 APOPROTEIN
                (APOPROTEIN OR APOPROTEINS)
            75 APOHEMOGLOBIN
             4 APOHEMOGLOBINS
            78 APOHEMOGLOBIN
                (APOHEMOGLOBIN OR APOHEMOGLOBINS)
            98 APOHB
            27 APOHBS
           106 APOHB
                (APOHB OR APOHBS)
           151 APOHEMOGLOBIN
                (APOHEMOGLOBIN OR APOHB)
             0 APOHEMEOXYGENASE
            19 APOCATALASE
           723 APOCYTOCHROME
            48 APOCYTOCHROMES
           746 APOCYTOCHROME
                (APOCYTOCHROME OR APOCYTOCHROMES)
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          763 APOFERRITIN
          235 APOFERRITINS
          839 APOFERRITIN
                (APOFERRITIN OR APOFERRITINS)
        66242 RHODIUM
           31 RHODIUMS
        66243 RHODIUM
                (RHODIUM OR RHODIUMS)
        86170 RUTHENIUM
           20 RUTHENIUMS
        86170 RUTHENIUM
                (RUTHENIUM OR RUTHENIUMS)
       151508 PALLADIUM
           37 PALLADIUMS
       151511 PALLADIUM
                (PALLADIUM OR PALLADIUMS)
L6           6 (APOPROTEIN OR APOHEMOGLOBIN OR APOHEMEOXYGENASE OR APOCATALASE
               OR APOCYTOCHROME OR APOFERRITIN ) (P)   (RHODIUM  OR RUTHENIUM
               OR PALLADIUM)

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7             6 DUP REM L6 (0 DUPLICATES REMOVED)

=> d l6 1-6 ibib abs

L6   ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2005:185451  CAPLUS
DOCUMENT NUMBER:          142:276006
TITLE:                    Preparation of a metal complex-protein composite for
                          the use as a hydrogenation catalyst of an olefin
INVENTOR(S):              Watanabe, Yoshihito; Ueno, Takafumi; Abe, Satoshi
PATENT ASSIGNEE(S):       Nagoya Industrial Science Research Institute, Japan
SOURCE:                   U.S. Pat. Appl. Publ., 7 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     US 2005049405         A1    20050303    US 2004-790060           20040302
     JP 2005075799         A2    20050324    JP 2003-310085           20030902
PRIORITY APPLN. INFO.:                       JP 2003-310085       A   20030902
OTHER SOURCE(S):          MARPAT 142:276006
AB   The metal complex-protein composite of the present invention includes a
     protein having a cavity and a metal complex and has a specific structure
     that the metal complex is received in the cavity of the protein.  Here the
     metal complex is prepared by complexation of a metal ion, which is selected
     among the group consisting of rhodium, ruthenium, and palladium, with a
     ligand.  The metal complex-protein composite of the invention functions as
     a hydrogenation catalyst of an olefin in water.  The metal complex-protein
     composite is thus effectively applied to hydrogenation of water-soluble
     substrates and has environmental advantages over organic solvents.  Preparation of
     rhodium complexes-apomyoglobin composites and their use as hydrogenation
     catalysts of olefins is disclosed.

L6   ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2004:511089  CAPLUS
DOCUMENT NUMBER:          141:253890
TITLE:                    Interaction of an anticancer ruthenium complex
                          HInd[RuInd2Cl4] with cytochrome c
AUTHOR(S):                Trynda-Lemiesz, Lilianna
CORPORATE SOURCE:         Faculty of Chemistry, University of Wroclaw, Wroclaw,
                          50-383, Pol.
SOURCE:                   Acta Biochimica Polonica (2004), 51(1), 199-205
                          CODEN: ABPLAF; ISSN: 0001-527X
PUBLISHER:                Polish Biochemical Society
```

DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cytochrome c is an important electron transfer protein in the respiratory chain, shuttling electrons from cytochrome c reductase to cytochrome c oxidase. Extensive chemical modification studies indicate significant electrostatic interactions between these proteins and show that all structural and conformational changes of cytochrome c can influence the electron transport. In the present work we examine the effect of an anticancer **ruthenium** complex, trans-Indazolium (bisindazole) tetrachlororuthenate(III) (HInd[RuInd2Cl4]), on the conformation of cytochrome c, the state of the heme moiety, formation of the protein dimer and on the folding state of **apocytochrome** c. For this purpose, gel-filtration chromatog., absorption second derivative spectroscopy, CD and inductively coupled plasma atomic emission spectroscopy (ICP(AES)) were used. The present data have revealed that binding of the potential anticancer drug HInd[RuInd2Cl4] complex to cytochrome c induces a conformation of the protein with less organized secondary and tertiary structure.
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:225986 CAPLUS
TITLE: Photoinduced long-range electron transfer of ruthenium-modified hemoglobin I (HbI) from Lucina pectinata
AUTHOR(S): Rivera, Eladio J.; Colon, Jorge L.
CORPORATE SOURCE: Department of Chemistry, University of Puerto Rico, Rio Piedras, 00931, P. R.
SOURCE: Abstracts of Papers, 227th ACS National Meeting, Anaheim, CA, United States, March 28-April 1, 2004 (2004), INOR-650. American Chemical Society: Washington, D. C.
CODEN: 69FGKM
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB The objective of this work is to prepare an appropriate donor-acceptor system to investigate intramol. long-range electron transfer (ET) in Hb I (HbI)of the tropical clam Lucina pectinata. The approach that has been taken in this work is to covalently attach a redox-active **ruthenium** complex to the surface histidine (His36) of HbI. Since this surface is not solvent accessible in met-HbI at neutral pH, His36 of **apoHb** I (apo-HbI) of Lucina pectinata was modified with Ru(bpy)2CO3 at pH 2, 4, 5 and 7. Apo-HbI was prepared using Teale's method. Modification expts. were monitored using UV-Vis spectrophotometry by comparing the absorbance ratio at 292 nm and 486 nm. Modified apo-HbI was reconstituted with hemin to produce modified met-HbI. The modified met-HbI was purified using ion-exchange chromatog. on a Fast Protein Liquid Chromatog. (FPLC) setup. Intramol. long-range ET from the Ru(bpy)2(i.m.)(His36)-excited state to the heme ferric iron in HbI was monitored by luminescence lifetime measurements. The results of these investigations will be presented.

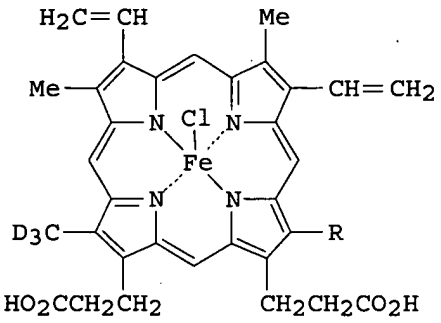
L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:331293 CAPLUS
TITLE: Placement of Ru(BPY)22+ in the heme pocket of cytochrome b5.
AUTHOR(S): Jackson, Tracey S.; Avila, Ludivina; Rivera, Mario; Durham, Bill; Millett, Frank
CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR, 72701, USA
SOURCE: Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000 (2000), INOR-510. American Chemical Society: Washington, D. C.
CODEN: 69CLAC
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Expts. have shown that outer mitochondrial membrane cytochrome b5 (1B5M) can accept a **ruthenium** complex as its prosthetic group. The 1B5M cytochrome contains only four histidines. To prevent the possibility

of multiple products upon reaction of the protein with the **ruthenium** complex, the two histidines not involved in prosthetic binding were replaced with tyrosines through site directed mutagenesis. The resultant cytochrome (HTM1) contains only histidines 39 and 63. The **apoprotein** of HTM1 was prepared by 2-butanone extraction, and the trans-[Ru(bpy)2(OH2)2](CF3SO3)2 was prepared by a 7 h photolysis of cis-Ru(bpy)2CO3 in 1 M CF3SO3H. The **apoprotein** and **ruthenium** complex were subsequently reacted for 15 h at 37oC under dark anaerobic conditions in the presence of 80% ethylene glycol. This presentation will focus on characterization of the new cytochrome.

L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:453401 CAPLUS
DOCUMENT NUMBER: 121:53401
TITLE: Site-Specific Hydrolytic Cleavage of Cytochrome c and of Its Heme Undecapeptide, Promoted by Coordination Complexes of Palladium(II)
AUTHOR(S): Zhu, Longgen; Qin, Ling; Parac, Tatjana N.; Kostic, Nenad M.
CORPORATE SOURCE: Department of Chemistry, Iowa State University, Ames, IA, 50011, USA
SOURCE: Journal of the American Chemical Society (1994), 116(12), 5218-24
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cytochrome c is specifically cleaved at the amide bond His18-Thr19 in the presence of an equimolar amount or a small excess of the simple **palladium**(II) complexes [Pd(H2O)3(OH)]+, cis-[Pd(en)(H2O)2]2+, cis-[Pd(dtco)(H2O)2]2+, and cis-[Pd(dtco-OH)(H2O)2]2+; where dtco is 1,5-dithiacyclooctane and dtco-OH is its 3-hydroxo derivative Incubation for 2 days at pH 1.7 and 40 °C gives the cleavage yield as high as 80%. A noncoordinating acid is required to bring cytochrome c into the partially unfolded state II. The cleavage site, between His18 and Thr19, is confirmed in expts. with the aforementioned complexes and with the fragment containing residues 11-21 and the heme. Cytochrome c and **apocytochrome** c give identical electrophoretograms upon cleavage; evidently, heme does not affect the site and the efficiency of cleavage. Although **palladium**(II) can initially bind to various side chains in the protein, only binding to Cys17 (a thio ether) results in cleavage. The tripeptides AcCys-His-Ala and AcCysMe-His-Gly mimic the important features of the reactive segment Cys17-His18-Thr19 in the protein. Indeed, the **palladium**(II) complexes promote selective cleavage of the His-Ala and His-Gly bonds in the resp. tripeptides, and kinetics of the cleavage of the former tripeptide is reported. This specificity probably is caused by tridentate coordination of the Cys17-His18 fragment to **palladium**(II) and by the proximity of the imidazolium group to the scissile bond. The notion of tridentate coordination is supported by IR and 1H NMR spectra of binary complexes obtained in the reaction between AcCys-His-Ala and **palladium**(II) complexes. The tripeptide AcCysMe-Ala-Gln mimics the important features of the unreactive segment Cys14-Ala15-Gln16 in the protein, which lacks the special histidine residue (i.e., the imidazolium group). Indeed, cis-[Pd(en)(H2O)2]2+ cleaves the CysMe-Ala bond in this synthetic tripeptide. Stereochem. and mechanistic aspects of cleavage are discussed. To the authors' knowledge, this is the first example of selective hydrolytic cleavage of a protein effected by a metal complex that is directly attached, not tethered, to the protein.

L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1987:49841 CAPLUS
DOCUMENT NUMBER: 106:49841
TITLE: Syntheses of derivatives of protoporphyrin IX bearing deuteriated methyls on the propionate (C and D) rings
AUTHOR(S): Smith, Kevin M.; Miura, Michiko; Morris, Ian K.
CORPORATE SOURCE: Dep. Chem., Univ. California, Davis, CA, 95616, USA
SOURCE: Journal of Organic Chemistry (1986), 51(24), 4660-7
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal

LANGUAGE: English
OTHER SOURCE(S): CASREACT 106:49841
GI



I

AB I (R = Me, CD3) were prepared I (R = CD3) was obtained via an acrylate by conversion of deuteroporphyrin IX di-Me ester into the corresponding bis(acrylate) using LiN(CHMe2)2, PhSeBr, and oxidative elimination. After base-catalyzed D exchange, reduction of the acrylate to propionate, and vinylation, the required 5,8-dilabeled porphyrin was obtained. I (R = Me) was obtained by total synthesis through a porphyrin with an unsubstituted 7-position. By a mercuration/**palladium**-olefin reaction, the vacant position was substituted with an acrylate and, following base-catalyzed exchange, hydrogenation, and construction of the 2- and 4-vinyls, the required product was obtained. I are of interest in connection with heme-**apoprotein** reconstitution studies and for characterization of structure/function relationships in heme proteins.

=>

WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Wednesday, September 28, 2005

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,USOC; THES=ASSIGNEE; PLUR=YES; OP=ADJ	
☐	L6	(apo$1protein |apo$1myoglobin|apo$1hemoglobin |apo$1hemeoxygenase |apo$1catalase| apo$1cytochrome |apo$1ferritin) same (rhodium |ruthenium|palladium)	5
☐	L5	(apo$1protein |apo$1myoglobin|apo$1hemoglobin |apo$1hemeoxygenase |apo$1catalase| apo$1cytochrome |apo$1ferritin) and(rhodium |ruthenium|palladium)	145
☐	L4	(apo$1protein |apo$1myoglobin|apo$1hemoglobin |apo$1hemeoxygenase |apo$1catalase| apo$1cytochrome |apo$1ferritin) and(rhodium \|ruthenium\|palladium) and phosphino$	2
☐	L3	(apo$1protein |apo$1myoglobin|apo$1hemoglobin |apo$1hemeoxygenase |apo$1catalase| apo$1cytochrome |apo$1ferritin) and(metal same (rhodium \|ruthenium\|palladium)) and phosphino$	2
☐	L2	(apo$1protein |apo$1myoglobin|apo$1hemoglobin |apo$1hemeoxygenase |apo$1catalase| apo$1cytochrome |apo$1ferritin) and(metal same (rhodium \|ruthenium\|palladium)) and phosphino$	2
☐	L1	(apoprotein |apohemoglobin |apohemeoxygenase |apocatalase| apocytochrome |apoferritin) same (metal same (rhodium |ruthenium|palladium)) and phosphino$	0

END OF SEARCH HISTORY